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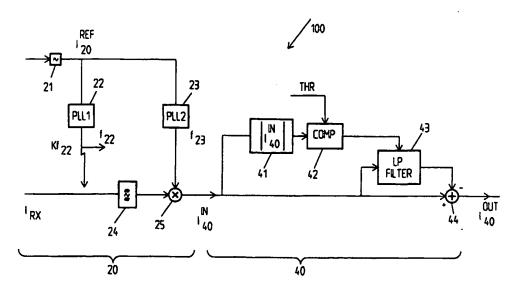
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### (54) Title: ARRANGEMENT AND METHOD RELATING TO RADIO COMMUNICATION



#### (57) Abstract

The present invention relates to an arrangement (100) and a method respectively for suppressing clock overtones generated in a receiving arrangement of a radio communication system which receives signals within at least one frequency band and wherein the receiving arrangement comprises a number of oscillators including local oscillators and digital clocking means. The arrangement (100) comprises a phase locking arrangement (20) which includes a number of phase locking means (22; 23) for locking the oscillators in relation to each other so that all clock overtone frequencies become co-located and well defined within the frequency band(s). The arrangement further comprises a filtering arrangement (40) for filtering out said clock overtones, thus producing an output signal (I OUT/40) which is substantially free from clock overtones.

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Category* Cita	ation of document, with indication, where appro	opriate, of the relevant passages	Relevant to claim No.
A WO	9531860 A1 (ANALOG DEVICES, IN 23 November 1995 (23.11.95), line 16 - line 27, abstract		1-22
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further d	ocuments are listed in the continuation of Box	C. X See patent family anne	х.
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Patent document cited in search report		ι	Publication date	Patent family number(s)		Publication date
WO	9531860	A1	23/11/95	EP	0759233 A	26/02/97
				JP	10511232 T	27/10/98
				US	5497152 A	05/03/96
				US	5528240 A	18/06/96
				US	5552785 A	03/09/96
				US	5574454 A	12/11/96
				US	5625358 A	29/04/97
				DE	69411926 D,T	18/02/99
				EP	0719478 A,B	03/07/96
				JP	9504917 T	13/05/97
				US	5489903 A	06/02/96
				US	5712635 A	27/01/98
				WO	9508221 A	23/03/95
				EP	0719477 A	03/07/96
				JP	9502847 T	18/03/97
				US	5485152 A	16/01/96
				WO	9508220 A	23/03/95